

IN THE SPECIFICATION:

Paragraph beginning at line 1 of page 3 has been amended as follows:

In supplying oil to the back pressure chamber 14, the vane back pressure is controlled in the course of suction, compression, and discharge strokes such that the vane back pressure is ~~an~~ at middle pressure from the suction to compression stroke and high pressure in the discharge stroke. The reason for this is as follows. During the period in which the compression of the refrigerant gas trapped in the cylinder compression chambers 16 by means of the vanes 15 is so progressed as to attain the discharging stage, that is, in the discharge process, a strong force due to the increase in the pressure of the refrigerant gas in the cylinder compression chambers 16 is exerted so as to push the vanes 15 back toward the interior of the vane grooves 12. Thus, it is necessary to apply high pressure to the back pressure chambers 14 to press the vanes 15 reliably against the inner surface of the cylinder 5. On the other hand, during the period in which there is no need to impart a pushing out or an extruding force to the vanes 15 ~~with~~ by means of high back pressure, that is, from the suction to the compression process, imparting large pressure to the vanes 15 only results in an increase in the

rotation load of the rotor 11, which ~~means it~~ is of no use. During this period, the pressure imparted to the vanes 15 is reduced to reduce the rotation load of the rotor 11.

Paragraph beginning at line 22 of page 3 has been amended as follows:

Thus, as shown in Fig. 11, there are provided in the end surface of the rear side block 7 flat groove portions 17 corresponding in position and configuration to the back pressure chambers 14 of the vanes 15 in transition from the suction stroke to the compression stroke, and oil is supplied to the flat groove portions 17 after being throttled by a bearing, etc. and reduced to ~~an~~ a middle pressure. By supplying oil at middle pressure to the back pressure chambers 14 through the flat groove portions 17, the back pressure chambers 14 are maintained at the middle pressure, thus preventing a pressure more than necessary from being applied to the vanes 15, whereby it is possible to reduce the power burden, and, in the case of a compressor mounted in a vehicle, it is possible to achieve an improvement in terms of fuel efficiency.

Paragraph beginning at line 11 of page 4 has been amended as follows:

Further, in the end surface of the rear side block 7, there are formed high pressure oil supplying holes 18 corresponding in position and configuration to the back pressure chambers 14 of the vanes 15 in the discharge stroke, and high pressure oil which has not been throttled is supplied to the high pressure oil supplying holes 18 through the oil passage 31. Thus, high pressure oil is supplied from the high pressure oil supplying holes 18 to the back pressure chambers 14. Due to the supply of the high pressure oil to the back pressure chambers 14 through the high pressure oil supplying holes 18, high pressure is maintained in the back pressure chambers 14, and high pressure is imparted to the vanes 15, thereby reliably bringing the vanes 15 into contact with the inner surface of the cylinder 5.

Paragraph beginning at line 21 of page 5 has been amended as follows:

The above-described construction designed such that no communication is established between the flat groove portions and the high pressure oil supplying holes through the vane back pressure chambers involves no excessive increase in the vane back pressure in the suction and compression strokes,

so that it is a satisfactory construction from the viewpoint of power reduction for the gas compressor. However, the oil in the compressor attains high pressure under the pressure of the discharge gas compressed in the gas compressor, so that, at the start of the gas compressor, the pressure of the discharge gas is not raised immediately, with the oil pressure being low. The oil supplied to the back pressure chambers in the suction and compression strokes further undergoes pressure reduction through the bearing, etc. to attain a still lower pressure. When, as is the case such as immediately after its mounting, the gas compressor is started with the vanes staying inside the vane grooves, it is necessary to push out the vane by using the vane back pressure before the vane can be projected from the vane grooves overcoming the resistance of the oil film. However, in the above-described conventional construction, in which the vane back pressure is kept at a low level, the extruding or pushing out force during the period in which the oil pressure has not been increased to a sufficient degree yet, is insufficient, so that it may take time for the vanes to be projected. And, during the period in which the vanes have not been projected yet, normal compressing operation is not conducted, so that as long as the above phenomenon persists, the gas compressor cannot function as such. Further, there is the problem of noise (chattering) due

to the collision of the vanes, slightly protruding from the outer periphery of the rotor, with the cylinder before the projection of the vanes.

Paragraph beginning at line 1 of page 8 has been amended as follows:

To solve the above-mentioned problems, according to the present invention, the invention relates to a gas compressor having a compressor main body which sucks, compresses, and discharges refrigerant gas, and an oil sump which stores oil for lubricating the compressor main body, the compressor main body being composed of a cylinder, side blocks arranged at axial ends of the cylinder, a rotor rotatably arranged in the cylinder, vane grooves formed so as to extend from an outer peripheral surface of the rotor ~~to~~ toward an inner periphery thereof, and vanes slidably accommodated in the vane grooves for undergoing ~~so as to be capable of~~ advancing and retracting, ~~the movement.~~ The gas compressor ~~comprising:~~ has a back pressure space including the bottom portions of the vane grooves and attaining middle pressure between a suction pressure and a discharge pressure during a normal operation of the compressor main body; a first high pressure oil passage establishing communication between the oil sump and the vane groove bottom portions when the vanes

are at their discharge stroke positions; a second high pressure oil passage establishing communication between the oil sump and the back pressure space; and an opening/closing valve for opening and closing the second high pressure oil passage.

Paragraph beginning at line 23 of page 17 has been amended as follows:

As shown in Fig. 1, a rotor 11 is arranged in the cylinder 5 so as to be rotatable around the rotor shaft 10. A plurality of vane grooves 12 are formed so as to extend inwardly from the outer peripheral surface toward the inner periphery of the rotor 11, with vanes 15 being slidably accommodated in the vane grooves 12 so as to be capable of projecting and retracting during rotation of the rotor 11. At the bottom portions (on the inner peripheral side) of the vane grooves 12, there are formed, as back pressure spaces, back pressure chambers 14 to which pressure fluid is supplied.

Paragraph beginning at line 5 of page 26 has been amended as follows:

Next, a second embodiment, in which the construction of the openign/closing valve and the construction of the second high pressure oil passage are modified, will be described with reference to Figs. 7 through 9. The components

which are the same as those of the first Embodiment embodiment and of the conventional gas compressor are indicated by the same reference numerals, and a description thereof will be abridged or omitted.

Paragraph beginning at line 10 of page 29 has been amended as follows:

As described above, in accordance with the present invention, there is provided the gas compressor having the compressor main body which sucks, compresses, and discharges refrigerant gas, and the oil sump for storing oil for lubricating the compressor main body, ~~in which the.~~ The compressor main body is composed of the cylinder, the side blocks arranged at the axial ends of the cylinder, the rotor rotatably arranged in the cylinder, the vane grooves formed so as to extend inwardly from the outer peripheral surface ~~to~~ toward the inner periphery of the rotor, and the vanes slidably disposed ~~accommodated~~ in the vane grooves ~~so as to be~~ capable of for slidably advancing and retracting, ~~the~~ during rotation of the rotor. The compressor main body includes ~~including~~ the back pressure chambers including the bottom portions of the vane grooves and attaining the middle pressure between suction pressure and discharge pressure during normal operation of the compressor main body; the first high pressure

oil passage establishing communication between the oil sump and the bottom portions of the vane grooves when the vanes are at their discharge stroke positions; the second high pressure oil passage establishing communication between the oil sump and the back pressure chambers; and the opening/closing valve for opening and closing the second high pressure oil passage, whereby exclusively at the start or during low speed operation, high pressure oil is supplied to the back pressure chambers in the stroke in which middle pressure oil is supplied to the back pressure chambers to thereby improve vane projectability, making it possible to cause the compressor to function at an early stage and to effectively prevent chattering. And, during normal operation, by stopping the supply of high pressure oil through operation of the opening/closing valve, an operational load reducing effect is obtained in the stroke in which only middle pressure fluid is supplied to the back pressure chambers.